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HEADQUARTERS
CIVIL WORKS & MILITARY PROGRAMS

ENGINEERING & CONSTRUCTION NEWS

VOLUME II NUMBER 1 OCTOBER 1999

OCTOBER'S THEME: *Acquisition*

CARL'S NOTES

As I retire from the Corps after more than 36 years of service, I have some final thoughts I want to leave with you. My first thoughts are those of thanks to all of you in the Pulaski Building for your assistance over the past year. Barbara and I will always be appreciative for your having made us feel at home and for your constant encouragement while we have been here. We leave Washington Oct. 29 and I will head for my new job as Los Angeles Area Manager for Parsons Brinckerhoff. What I will leave behind is a special breed of professionals who are simply the best in their field.

To the E & C staff, please accept my heartfelt "Thank You" for your hard work. Your work is so important as is your continued passion for the "quality," "excellence" and "integrity" you represent. I also thank Denise Massihi and Charles Pearre, editors in chief for "Engineering and Construction News". Without their perseverance and continual reminders there would have been far fewer of these newsletters. I hope you have found them worthwhile and hope that they have brought us a little bit closer together throughout the Corps.

As I think about the future, I have vivid thoughts of the past. It hardly seems like 36 ½ years have elapsed since I began working for the Corps as an intern in the Philadelphia District. Times certainly were different then. Within a four-week period I graduated from Pennsylvania Military College, served two weeks active duty in the Reserves, got married, went on a honeymoon and began a new job with the Corps. Oh yes, I was 28 pounds heavier also.

That summer of 1963 launched me on an incredible journey, personally and professionally. I could not even imagine the tremendous opportunities and responsibilities that would follow that very hot and humid summer in Philadelphia. The Corps has taken me to many great locations, educated me at superior institutions of learning, like Stanford and Harvard, and involved me in some incredible projects. What I will remember most, however, were the opportunities the Corps afforded me to work and share experiences with many of you, our clients and our partners in the engineering and construction industry.

I appreciate your support and most of all your friendship during my tenure with the Corps. Your encouragement paved the way for my reassignment to serve as Chief of Engineering and Construction in the Civil Works Directorate. It was an honor to represent you in this capacity and one that I could have only dreamt about when I joined the Corps so many years ago.

I would like to leave you with one final thought. You are part of a great organization! You are doing important work and you do it better than anyone else. Change will continue at speeds we neither

CARL'S NOTES (CONTINUED)

comprehend nor can adapt to easily. The organization's structure and its processes will continue to evolve in response to those changes. The trick is to never lose focus on what is really important, and I believe that is our people. The single most outstanding trait of the Corps of Engineers that I've observed over the years is the large number of professionals who care so much for this organization and the people they serve. They go well beyond what is required, expected and sometimes beyond what is even considered possible. Many times their contributions are in the most adverse of circumstances and not adequately recognized or appreciated by the public or even us, as organizational leaders. To persevere and succeed regardless of the recognition, despite the adversity is typical of the dedication that sets the Corps apart and makes this organization premier.

Never lose that passion, nor that commitment and dedication. Continue the great tradition of those before us who literally built this great Nation. We . . . and now you . . . are continuing to build it now. Be proud of your personal and professional heritage and your public service. You are making a difference! And that is what it is all about.

Again thanks for sharing this journey with me. The best of everything to all of you and to the Corps Team.

Essayons!

DWIGHT'S NOTES

Carl's announced retirement is "front page" news to all of us. We have been close allies from the start in headquarters and good partners while DETS in the field. Carl has contributed greatly to the success we see in the Corps today. His clear understanding of how the Corps works and how it can work better have been hallmarks of his tour here. We will sorely miss his unique insights and leadership. But, I'm confident we are really not losing a Corps leader. We are, instead, gaining a Corps champion at Parsons-Brinckerhoff. During Carl's short time here he has championed engineering excellence and teamwork. He built a sturdy bridge between Civil Works and Military Programs and between Engineering, Construction and Program Management. He's a true corporate leader. I wish Carl and his family luck and happiness as he moves back to the west coast, where his heart is.

An area that Carl excelled in is this month's E&C Newsletter theme: Acquisition. The Chief is fond of reminding us that the Corps is a contracting organization. We acquire services and products through extensive use of the private sector. The Corps programs generate almost a billion dollars in A-E fees per year, as well as several billion dollars in construction contracts. Engineering and construction members play a vital role on the Project Delivery Team. Our experience and professional judgement helps ensure that the Corps acquires quality design and construction using sound acquisition methods. As the Corps moves further into the contracting reinvention process we need to continue to serve in this capacity. We must recognize that we are not alone, though. Acquisition is a multifaceted process, of which we have some competencies, but not all of them. We need to learn new ways to acquire products and services, apply the right tools to the right requirements, and remain competent to provide appropriate government oversight. Carl was an expert at this. He has taught us well. Now we need to step in for him to move the Corps to higher levels that will make Carl proud of us.

ARTICLES

THIS PUBLICATION WILL BE ISSUED ON A MONTHLY BASIS AND DISTRIBUTED BY E-MAIL AND POSTED ON THE INTERNET AT HTTP://WWW.HQ.USACE.ARMY.MIL/CEMP/C/CEMP-C.HTM AND HTTP://WWW.USACE.ARMY.MIL/INET/FUNCTIONS/CW/CECWE/NOTES. IF YOU WOULD LIKE TO CONTRIBUTE ARTICLES OR HAVE SUGGESTIONS FOR FUTURE ARTICLES, PLEASE CONTACT DENISE MASSIHI, CEMP-EC, 2020-761-1380 OR CHARLES PEARRE, CECW-EP, 202-761-4531.

Acquisition

GSA MULTIPLE AWARD SCHEDULE FOR PROFESSIONAL ENGINEERING SERVICES

The General Services Administration (GSA) is establishing a multiple award schedule (MAS) for professional engineering services (PES) under Solicitation No. FCXB-B2-990001-N. To date, about seven contracts have been awarded under the MAS. **This procurement was not conducted in accordance with the Brooks Architect-Engineer Act, and must not be used to provide architect-engineer services as defined in Part 36 of the Federal Acquisition Regulation.** In particular,

professional services of an architectural or engineering nature concerning the planning, design, construction or alteration of real property which typically, by state laws, must be performed or approved by a person licensed to provide such services, must be procured by the Brooks Act and FAR Part 36. The MAS may be useful for some technical support services in the Corps, which are not associated with real property. Information on the PES MAS can be found at http://pub.fss.gsa.gov/services.

POC: DON EVICK, CEMP-EC, 202-761-1053

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MILITARY PROGRAMS CONTRACTOR OF THE YEAR AWARD

Annually, the Directorates of Military Programs and Civil Works collaborate on the selection of two nominees for Contractor of the Year. Military Programs nominates the Military Construction Program award winner while Civil Works Directorate designates a contractor who has completed a civil works construction contract in 1998.

This year, five MSC's submitted Military Construction Contractor of the Year award candidates. The selection board proposed the Tulsa District, Southwestern Division nominee, Matherly Mechanical Contractors, Inc. of Midwest City, Oklahoma, as the military construction COTY. The Chief of Engineers approved after the Director of Small Business reviewed the nominees for conformance to small, disadvantaged, and women-owned small business utilization performance.

Matherly Mechanical Contractors winning construction project involved replacing heating, ventilation and air-conditioning support systems in a 110, 000 square foot double bay hangar for the Air Logistics Center at Tinker Air Force Base. The project was deemed by the Tulsa District the most dangerous of all its projects. Ninety-five percent of the equipment installation was conducted 65 feet above the hangar floor in a very hazardous, congested, noisy mechanical loft environment while production painting operations continued unabated below in one-half of the facility throughout the 18 month construction period.

On 16 August 1999, LTG Joe Ballard, Chief of Engineers, accompanied by Brigadier General Edwin J. Arnold, Jr., Commander Southwestern Division, presented the 1998 Construction Contractor of the Year Award (Military Construction) to Mr. Dale Matherly, President, Matherly Mechanical Contractors, Inc., at the Senior Leaders Conference in San Francisco, California.

The award, a handsome bronze plaque in a hardwood frame, contained the following inscription: "Matherly Mechanical Contractors, Inc. demonstrated exceptional performance in replacing heating, ventilation and air conditioning utility support systems in the 111,000 SF Corrosion Control Facility at Tinker Air Force Base, Oklahoma. Despite the project's inherent dangers, Matherly delivered the product on time, without serious safety incidents, with minimal cost growth and without impact to the on-going production line. They achieved "outstanding" ratings in 29 of 33 performance elements while employing small disadvantaged and women-owned small business subcontractors on 28 percent of the work. Matherly's performance on this project represents the highest standards for construction and customer satisfaction as established by the Corps of Engineers."

POC: DICK DALEY, CEMP-EC, 202-761-8740

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CIVIL WORKS CONTRACTOR OF THE YEAR AWARD

On August 16th, Roen Salvage Company was honored as the US Army Corps of Engineers' ***1999 Civil Works Contractor of the Year***. The USACE Chief of Engineers, Lieutenant General Joe Ballard, presented the award to John Asher, President of the Sturgeon, WI, contractor at the USACE Senior Leaders' Conference in San Francisco. Also present at the ceremony was Grand Haven Area Engineer Ross Kittleman, PE, representing Detroit District Commander LTC Robert J. Davis. In his acceptance speech, Asher read Vince Lombardi's speech, "What it takes to be No. 1" ("Winning is not a sometime thing….") and recalled the history of his company. The Roen management team and their wives were also in attendance at the banquet.

Charles W. and Hilda Roen Asher founded Roen Salvage Company in 1949 with the assistance of Hilda's father, Captain John Roen. Captain Roen was already known on the Great Lakes for his raising of the George M. Humphrey (which he renamed Captain John Roen), a 600 ft ore freighter that sank in the straits of Mackinaw in 1943 after being rammed in a fog. No other salvage company would accept the challenge, but Captain Roen's bold proposal was that if he raised it, he could keep the salvaged ship and material, valued in the admiralty suit at over $1.6 million. Captain Roen not only salvaged the ore and raised the giant - a feat everyone said was impossible - but also repaired her and made her seaworthy once again. Roen Salvage Company later diversified into heavy marine construction and has continued on in this tradition of tenacity and hard work ethics. It has, among its many fine accomplishments, completed projects in over 50 harbors in the Great Lakes.

Roen also received the ***Detroit District's 1998 Contractor Safety Award***, and the ***Great Lakes and Ohio River Division Contractor of the Year Award*** for its exemplary performance on the two construction projects totaling just over $7.2 million and which were completed during fiscal years 1997 through 1999. Both Phase I and Phase II were completed substantially ahead of schedule. . Overall, the projects were brought in under budget due in part to Value Engineering Proposals by the Contractor. Roen's performance was rated by the Grand Haven Area Office as outstanding due to the excellent quality of workmanship, adequacy of their quality control plan, and the timely correction of less than quality work in a timely manner. "It's easy to have a quality product with a quality contractor," said Tom O'Bryan, Chief of Construction for Grand Haven. "And, basically that is what happened. We solved problems at the lowest level."

Both contracts were formally partnered which was instrumental to the excellent working relationship between Corps and contractor employees. Scott Babcock provided the Corps' quality assurance on both projects while Don Sarter and Kevin Feil oversaw the Contractor's quality control program. "Don wanted to work with us," Scott said, "and they just want to work and do a quality job. They DID a quality job!" Back in the office, Tom Levy and Tom Drager provided the necessary link between the Contractor's program managers and Tom O'Bryan in Grand Haven. "It is no surprise to me." Pat Klever stated. "We have always had an excellent working relationship - especially between 'The Toms'. O'Bryan has done an excellent job of fostering contractor trust and confidence in the Corps of Engineers, and I think that this is just another indicator of what can be done when everyone works together toward a common goal."

On September 9, 1999 it was announced that Roen is also a winner in the seventh annual ***Projects of Distinction Awards Program*** of the Associated Builders & Contractors of Wisconsin, Inc. for their work at White Lake Harbor.

The White Lake Channel was authorized by the Rivers and Harbors Acts of 1 March 1867, 3 March 1873, 5 July 1884, 13 July 1892, and 2 March 1907. These acts provided for the abandonment of the old outlet and the creation of a new channel between White Lake and Lake Michigan. The channel is 200 feet wide, 1950 feet long, between parallel piers and revetments. The original substructure was completed in 1908. Subsequent to that time, there have been improvements and repairs. The recently completed repairs - using cold-rolled steel and concrete - will provide an expected structure life of 50 years and encloses the old timber and concrete structures.

White Lake Harbor supports a wide variety of many different interests to the surrounding communities. They include sport fishing, industry, environmental groups, government, and recreational boating, sight seeing and swimming.

POC: PATRICK T. KLEVER, CELRE-CO-G, 616-842-5510

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PROJECT DELIVERY METHODS PRESENTATION

On 8 October 1999, Dr. John Miller, Associate Professor of Civil and Environmental Engineering, Massachusetts Institute of Technology, gave a very informative presentation on project delivery methods to HQUSACE, Army and Air Force staff members. Dr. Miller's teaching and research has centered on procurement systems and strategies for government infrastructure facilities and services. He has been instrumental in revising the American Bar Association's Model Procurement Code.

Dr. Miller has studied the acquisition of public works throughout the history of the United States and has classified the numerous methods that have been used. He has concluded that there are essentially two strategic variables: project delivery method and finance method. Project delivery method varies according to the degree which various project responsibilities are segmented or combined. Design-bid-build is a very segmented method and design-build-operate-maintain is a highly combined approach. The financing variable ranges from total direct public appropriations (such as typical military construction projects) to full private financing (such as the Energy Performance Savings Contracts).

His research found that prior to the Depression (1933) in the United States, over 90% of public projects used a combined delivery method and over 60% involved indirect (private) financing. However, in the post-Depression era, there was a dramatic shift to direct public financing and segmented (design-bid-build) delivery. Only in the last decade have public agencies began to again exploit the full range of delivery and financing methods. The Army's Residential Communities Initiative for family housing privatization is certainly one significant current example.

Dr. Miller emphasizes that public agencies need a stable mix of various delivery and financing methods. There is no one best method! The choice of delivery system is best made in the context of the complete portfolio of the agency. Segmented, publicly funded methods allow for great control of the product, but combined, indirectly financed methods can inspire substantial innovation and cost benefits.

The presentation will be posted on the Internet at: http://www.hq.usace.army.mil/CEMP/C/CEMP-C.HTM. We plan on continuing our dialogue with Dr. Miller and will advise you of any applicable results.

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CORPS PARTNERING WITH DBIA

The annual U.S. Army Corps of Engineers and Design Build Institute of America (DBIA) partnering meeting was held on 29 September 1999 at the DBIA office in Washington, DC. A formal partnering agreement was executed on 8 January 1998 and this meeting was held to review that agreement and to discuss areas of mutual interest in the design-build arena in particular and the broader subject of project delivery in general.

Some of the major topics covered during the session included the ongoing DBIA survey of design-build in the Federal sector, use of design-build outside the United States, use of design-build on civil works projects in USACE, potential for design-build on the Army Barracks Complex program and other cooperative efforts for the future.

The Corps participated in the DBIA survey of design-build in the Federal sector. DBIA indicated that results are preliminary and not yet compiled. Regarding the overall use of the design-build method in this country, DBIA stated that about 25% of project construction value is acquired with this method. There is still regional resistance to using the method. The areas of strong support are in the Southeast and Midwest. Some of the bad news is that the cost to compete on design-build is discouraging many firms and mandates from above on some of the public projects restricts its use. Also, there is a good deal of hybridization of the design-build process such as split contracts (design then build) and bridging (highly prescriptive RFP).

Regarding design-build outside the U.S., the DBIA is a member of an international consortium of design-build non-profit organizations. The Corps wants to keep tabs on international design-build because of its OCONUS missions and potential use of the design-build method in foreign markets.

The DBIA was encouraged by the recent change in Corps policy to delegate the decision to use design-build on civil works projects down to the major subordinate command level rather than require approval at the headquarters. Although probably not applicable on the larger multi-year funded major water projects, design-build may be appropriate on some civil works such as visitor centers, bridges, boat ramps, shore protection, piers, and others. DBIA wants to see how we progress in this area.

The Army Barracks program was discussed. The Corps will be tracking the FY99 program because several Congressionally added projects are using the design-build method. Corps customers are looking for a better way to get barracks facilities faster and at better value and the design-build method has a high potential to meet those ends. Acquisition methods will be examined as part of the ongoing Army Barracks Complex Mid-Program Review. DBIA agreed to take a look at some of our recently awarded barracks design-build RFP's and provide some feedback.

Both the DBIA and the Corps are in the throes of developing their respective strategic plans in the area of project delivery. Neither organization believes one size fits all when it comes to delivery method. Both agree that the important thing is to match the acquisition strategy to the particular goals and objectives of the project. Agreement was made to stay attuned to each other's developments in this area.

DBIA and the Corps plan to meet again in early 2000. One agenda item will be to discuss the new performance specifying software that was jointly developed by DBIA and the Construction

Specifications Institute (CSI). (*Access the DBIA Homepage through Links to Industry @* http://www.hq.usace.army.mil/cemp/C/cemp-c.htm*)*

POC: MARK GRAMMER, CEMP-EC, 202-761-0744

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ACQUISITION INITIATIVES

At the Senior Leaders Conference in August 1999, Mrs. Bunny Greenhouse present as overview of the Corps of Engineers Contracting Initiatives. Mrs. Greenhouse emphasized the Chief's intentions and goals for the program and discussed the guiding issues and benefits for each of the initiatives.

The Chief's corporate vision for contracting is to revise the business process to improve efficiency and effectiveness, to improve acquisition professionalism, to improve the contracting processes and to leverage resources. Mrs. Greenhouse provided and discussed a number of Corps actions that would be required to achieve the goals in the vision. When implemented the initiatives will improve the Product Delivery Process while ensuring fairness to all contractors (including small business).

During the coming year, the Division level oversight of acquisition strategies will increase. The review of district acquisition strategies will be a subject of semi-annual meeting of the MSC Resource Management Board (RMB). In addition, the approval level and source selection for large dollar value IDIQ contracts will be elevated. IDIQ contracts over $15,000,000 will be approved at the MSC and contract over $30,000,000 will have to be submitted to HQUSACE.

The regional advance acquisition planning system will be institutionalized in a policy letter early in the fiscal year. This system will require a minimum of a bi-annual review of all significant and/or special interest projects. It will also address small business applicability, and proposed procurement methods. To assist in improving the acquisition process, the PARC will gather and champion best practices from field offices and partner with other functional areas for dissemination to all involved in the process. Training will be established for the Product Delivery Teams on the acquisition process and other training requirements will be identified and courses developed. At the same time the number of contracting officers and administrative contracting officers that do not have the training requirements to officially maintain their warrants will be reviewed and training will be made available for these individuals to maintained the requirements for their positions.

The role of acquisition personnel on the Product Delivery Team was also discussed. The Project Manager must engage the complete Product Delivery Team in developing project acquisition plans. Along these same lines, Mrs. Greenhouse address the need to provide the grade levels in the acquisition organizations required to maintain a professional staff.

The PARC's major goal is to set contracting within the Corps of Engineers AFIRE with ***A***daptive, ***F***lexible, ***I***nnovative, ***R***esponsive, and ***E***ffective/efficient processes. The full list of issues addressed by Mrs. Greenhouse can be found her slides located at http://www.usace.army.mil/essc/slc/slc99.htm#pres.

POC: CHARLES PEARRE, CECW-EP, 202-761-4531

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District of the Month

EDITOR'S NOTE

This is the first of a series of articles highlighting the engineering and construction functions at our Corps of Engineers districts. The editors requested volunteer Districts to submit articles about their programs. To date we have sufficient volunteers to take us through the March 2001 issue of the E&C News. Districts interested in volunteering for future issues may contract one of the editors of the E&C news to place your District on the waiting list.

POC: CHARLES PEARRE, CECW-EP, 202-761-4531

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JACKSONVILLE ENGINEERING

Engineering the largest Civil Works project in the world (Everglades restoration) alone would be enough challenge for any Corps of Engineers District. Add to that monumental task the unique and varied demands that serving the state of Florida and the Antilles place on an organization and one can see that the Jacksonville District has engineering requirements that are both challenging and diverse. The district has second the largest civil works budget in the nation.

The $7.8 billion Central and Southern Florida Restudy Project (Everglades restoration) now before Congress (as this is written) will challenge all of the personnel and facilities of the district. The plan will improve the health of more than 2.4 million acres of the south Florida ecosystem. Work is planned to improve the health of Lake Okeechobee and the condition of to include Everglades National Park. The virtual elimination of damaging freshwater releases to the estuaries will improve water quality in Florida and Biscayne bays and will enhance water supply while maintaining flood protection.

The District has the strong technical capabilities needed to accomplish this work. Water modeling is critical to the program's success. The District's hydrologic and water quality modeling capabilities are ready to undertake the challenge. In addition, Engineering Division has CADD and Geographical Information System capabilities. Digital terrain models have been developed for the canal and levee networks, which are valuable communications tools.

At the same time, Jacksonville must continue to provide traditional civil works services including flood control, water management, navigation, shore protection and restoration, environmental restoration, and others.

One major flood control initiative is the Rio Puerto Nuevo Project in San Juan, Puerto Rico. Ongoing improvements will provide 100-year flood protection to a major portion of the San Juan metropolitan area by enlarging 11.2 miles of channel along Rio Puerto Nuevo at a cost of approximately $450 million. This project has provided some engineering challenges, which were addressed using technologies such as wick drains and soil anchors. Grouted concrete panels were used to line sections of the finished river channel bottom from bank to bank. In addition, driving 48-inch steel piles through the deck as part of a bridge retrofit provides for earthquake protection for existing infrastructure.

Another major project is the Portugues and Bucana Flood Control Project. The Portugues Dam, now under construction, is a double curvature, thin-arched structure 1,500 feet in length along the crest, 270 feet high, 44 feet wide at the base and 12 feet wide at the top. One-of-a-kind grouting using microfine cement has recently been completed in rock beneath the dam as discussed in the September issue of *ASCE Civil Engineering Magazine*.

The District, as part of its Project Management Business Process (PMBP) implementation, has instituted Project Action Teams on its major projects. These teams are composed of senior representatives from the functional elements and the Project Manager. Monthly meetings take place to discuss major issues and resolve problems that arise. An action list is developed to address every item considered.

The system of harbors and waterways located in the District is one of the largest in the country. The District operates and maintains approximately 60 different navigation projects, including 16 deepwater ports, 30 navigation locks and more than 2,100 miles of inland waterways.

In May of 1999 construction began on restoration of a portion of the Kissimmee River, the primary headwaters of Lake Okeechobee. In the early 1960's the Corps straightened the channel of the River as part of a major flood control initiative. Restoration calls for filling approximately 22 miles of the artificial channel, excavating nearly 12 miles of new river channel, and removing water control structures within the backfilled canal.

The backfilling within certain reaches of the channelized river has resulted in the potential for large head differentials across these reaches under high flow conditions and associated high velocities. To reduce the potential for erosive velocities and/or other environmental degradation under high flow conditions, water management strategies have been adopted which limit the head differential across these reaches of the Kissimmee River. This often involves raising the water level downstream of a backfilled reach during high flow conditions. Other goals of water management during construction have included provision of reduced flow conditions during construction of the initial plug between Structures S-65C and S-65B, and prevention of fish kills by limiting the rate of water level recession. Management of water levels during construction has been an interdisciplinary effort and has required close coordination between Jacksonville District and South Florida Water Management District staff.

In addition to extensive use of automation for modeling and analysis for all of the engineering disciplines, the District continuously seeks to be innovative in its use of technology. In 1991, a video was provided to accompany the GDM for the Puerto Nuevo Project. The video provided a helicopter overflight of the river basin. Representatives from each functional area discussed their portion of the DM providing graphical illustrations to make complex issues more understandable. In 1992, GIS was utilized for the Hurricane Andrew recovery efforts. This technology was particularly useful when coupled with GPS in locating sunken vessels. In 1993, animation was provided to depict the construction of the Portugues Dam. The animation was used to educate the sponsor and local residents of what would be built. Animation was again used in 1998 for showing the many components of the Puerto Nuevo project. The finished product was used for many meetings with those living in the vicinity of the project to provide them a better understanding of the construction that was going to take place.

The District is also designing a high rise precast segmental concrete girder bridge to replace an existing 80 foot span double-leaf bascule bridge over the Atlantic Intracoastal Waterway approximately 30

miles south of downtown Jacksonville, Florida. The original bridge (built in 1937) is located on a vital hurricane evacuation route and is functionally obsolete, posing a constriction to emergency evacuation of the coastal beach areas. The new replacement structure (2138 feet long and four lanes wide) maintains a 65-foot vertical clearance for navigation and provides a 290-foot clear span over the waterway. This state of the art bridge will feature the second longest clear span built in Florida using a segmental precast girder system. The approach spans are built with conventional bulb-T prestressed girders.

In summary, the District faces an ever-changing array of complex technical challenges. District leadership is meeting these challenges by providing technical personnel with the training, tools and resources necessary to accomplish the tasks.

POC: ED MIDDLETON, CESAJ-ED, 904-232-2251

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International Activities

CORPS OF ENGINEERS OBSERVERS VIEW EARTHQUAKE DAMAGE IN TAIWAN

After the 7.3 magnitude Chi Chi earthquake on Taiwan on 20 September 1999, four research engineers from the Waterways Experiment Station in Vicksburg and one from the Construction Engineer Research Laboratory in Champaign were sent to Taiwan to perform earthquake reconnaissance.

The team has just returned to the United States and has documented their trip with an excellent series of notes and pictures. This information is available at http://www.liquefaction.com/taiwan on the Internet. Some of the highlights of the reports are listed below:

- Shui-Shi and Toulih embankment dams at Sun-Moon Lake pumped storage project were subjected to about 1g or more and performed beautifully. Both dams settled about 1 ft. Shui-Shi dam had seven longitudinal cracks along the crest and upstream and downstream slopes; total horizontal movement was less than 10cm upstream and 10cm downstream; there was a strange vertical bump on the crest near the centerline; we suggested some limited test pits.
- Toulih dam also performed well, settlement, no significant cracking, and some cracking in a sacrificial upstream berm added for "seismic stability."
- Both Shui-Shi and Toulih were constructed by the Japanese about 1941. The foundation materials are relatively thin mountain valley deposits (widely graded with cobbles and boulders). The slopes are 1v/4h. The shells are compacted, widely graded coarse fill. The core consists of compacted clay with a central concrete cut off wall.
- Sun Moon Lake was drawndown 6 meters as a standard practice required by the government, until further safety assessments could be made.
- The team flew over two concrete arch dams in the epicentral zone. These dams appeared to be undamaged.

POC: MARY ELLEN HYNES, CEWES-GG-H, 601-634-2280

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RETIREMENT LUNCHEONS FOR OCTOBER

A retirement luncheon for Ronald J. Hatwell, Chief, Cost and Systems Engineering Branch, Military Programs will be held at Phillip's Flagship on Thursday, 21 October 1999. Mr. Hatwell will be retiring after over 33 years of Federal service. Please join us in wishing Ron farewell as his new journey take him to retirement. For more information on this luncheon, please contact Jackyee Campbell at (202) 761-4747 not later than 15 October.

A retirement luncheon for Mr. Carl F. Enson, Chief, Engineering and Construction Division, Civil Works, will be held at the Holiday Inn on the Hill on Tuesday, 26 October 1999. Mr. Enson will be retiring after over 36 years of Federal service. Please join us in wish Carl farewell as he returns to California and the A/E community. For more information on this luncheon, please contact Vickie Lay at (202) 761-4538 or Lisa Rich at (202) 761-4982 not later than 15 October.

POC: CHARLES PEARRE, CECW-EP, 202-761-4531

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SUPERVISION AND ADMINISTRATION (S&A) REGIONALIZATION

By e-mail, each MSC and District was informed that in August the BOD approved the proposal on S&A Regionalization. The message included a set of questions and answers about the proposal. As additional questions arise those questions and answers will post the answers to the DCSRM home page under guidance/regulations.

In addition DCSRM have posted on the Web the latest draft ER 415-1-16, Fiscal Management of Construction, dated 16 September 1999. It is located at URL: http://www.usace.army.mil/inet/functions/rm/regs/regs.htm#regs. Chapter 5 contains new guidance on implementation of S&A Regionalization. DCSRM would like to have comments on this version which reflects numerous changes to the earlier 6 April 1999 draft. MSC's should implement the version of ER 415-1-16 posted on the DCSRM home page as the current guidance. If there are conflicts with other policy please include those conflicts in your comments.

Comments are requested by 25 October 1999 to Mr. Philip Blount, CERM-P, (202) 761-1267. In addition MSC and district schedules of Military placement, expense, income and rates are required by 25 October 1999 in electronic format. DCSRM has provided the format by e-mail to the MSC's and districts.

POC: STEPHEN COAKLEY, CERM-ZA, 202-761-0077

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CLARIFICATION OF STRATEGIES FOR MAINTAINING EXCELLENCE (E&C NEWS, AUGUST 1999)

Some Districts have been misinterpreting paragraph III.d. of the article concerning Strategies for Maintaining Excellence that was published in the August 1999 issue of the E&C News. That paragraph, which discussed competitive advancement of technical experts to the GS-13 level, has been revised in coordination with Human Resources. Paragraph III.d. is revised as follows:

"Make a clear corporate commitment to reward those who have achieved excellence. To retain a critical core of technical experts within the Corps, allow promotion of senior technical experts to the

GS-13 level if they advise other districts or MSC's provided this is documented in their position description as a major duty and has been certified by management. Provide a clear career ladder for the continued advancement of technical experts within the Corps."

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Dam Safety

DAM SAFETY INCIDENT NOTIFICATION PROCEDURES

Recent incidents have raised the need to revisit the issue of reporting potential dam safety incidents. The procedure is outlined in ER 1110-2-101, "Reporting Evidence of Distress of Civil Works Structures" (http://www.usace.army.mil/inet/usace-docs/eng-regs/er1110-2-101/toc.htm). This regulation was developed to keep the USACE chain of command informed by ensuring the immediate reporting, inspection, and follow-up evaluation of conditions that demonstrate evidence of distress or conditions that could result in a potential hazard at civil works projects. It is primarily focused on dams, but also applies to other structures.

Events that could be misconstrued by the public as leading to a potential hazard should also be reported. This could avoid erroneous reports in the media from being a surprise to the chain of command. The District Dam Safety Officer should make the determination whether an incident needs upward reporting. The HQUSACE Dam Safety Officer (Carl Enson) is the primary point of contact for these incidents.

We urge you to periodically review this regulation. District and MSC Dam Safety Coordinators receive periodic updates to the contact list in the ER.

POC: ROBERT BANK, CECW-EP, 202-761-1660

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Information

HOW DOES YOUR HOMEPAGE LOOK?

If you haven't looked at the Little Rock District's homepage lately, it might be worthwhile – they have excellent write-ups and photographs on the construction progress of the Montgomery Point and Table Rock projects. Maybe more Corps districts should include these kinds of information pages on their homepages for their dam safety related activities....?

Here's a link to the SWL homepage: http://www.swl.usace.army.mil/

POC: TOMMY SCHMIDT, CESWD-ET-E, 214-767-2378

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CORPORATE OUTREACH IMPLEMENTATION WORKSHOP

Strategic planners at the Strategic Management and Innovations Division (CERM-S) have created several workbooks and tools that can help USACE field representatives maintain and expand their customer base. USACE has gathered these helpful, time saving "tools" of the trade into a "toolkit" that can be used when undertaking an "Outreach Program." The Corporate Outreach Toolkit was presented

to members of the Corps at the Corporate Outreach Implementation Workshop was held in St. Louis, September 8-10, 1999. Information from the briefings at the workshop and information on the toolkit is available on the Internet at http://www.usace.army.mil/essc/intra/customer/outreach.htm.

POC: JACK BICKLEY, CECW-EP, 202-761-8892

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ENGINEERING AND DESIGN FOR CIVIL WORKS PROJECTS

A completely revised Engineer Regulation 1110-2-1150, covering the engineering and design process for Civil Works projects, has been signed and is effective immediately. The engineering and design regulation was revised to fully incorporate the Project Management Business Process (PMBP) and it fully complies with ER 5-1-11.

One of the major changes in the regulation is the elimination of the General Design Memorandum (GDM) and the Design Memorandum (DM). The GDM had previously become obsolete with the introduction of the Engineering Appendix to the Feasibility Report. The DM is now replaced by a Design Documentation Report (DDR), which is the designing office's record of the total design process. The DDR covers the design activities from the start of design through the completion of construction.

The revised regulation has been posted in the Engineer Regulation Library on the Internet. It is also available on the Civil Works Engineering and Construction Division homepage at http://www.usace.army.mil/inet/functions/cw/cecwe/cecwe.htm.

POC: CHARLES PEARRE, CECW-EP, 202-761-4531

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Architect's Forum

TRAINING OPPORTUNITIES FOR ARCHITECTS

Continuing Education (CE) selections for the 2000 AIA convention have been made. The AIA committee reviewed well over 400 proposals and the working program will consist of over 160 seminars and 20 workshops. *Livable Communities* is the theme of the convention and that topic will constitute approximately 40% of the sessions. Already the 2000convention, to be held in Philadelphia, is setting records in terms of the number of CE proposals received and sessions to be offered. Through the efforts of HQ USACE the first annual *Public Architects Workshop* will be held at the convention on 3 May 1999. It will be an unprecedented, international gathering of public sector architects, representing local, state, federal and foreign governments, for the purpose of discussing mutual issues and concerns with the business, profession and practice of public architecture. This day and a half workshop will offer nationally prominent speakers; interactive educational opportunities focused on the issues and concerns of the public architect, and individual breakout sessions. The event offers a forum for networking, professional training; and an opportunity to view latest products, services and technologies of over 500 exhibitors. Topics include state of the public architect, project delivery methods, sustainability, and other topics to be determined.

POC: LAWRENCE P. DELANEY, AIA, CEMP-E, 202-761-1545

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FUTURE EDITIONS OF THE USACE ARCHITECT'S FORUM SECTION

Future editions of the Architect's Forum will include profiles of USACE architects, a "Where are they Now?" series, examples of successful projects; new about Interior Designers and Landscape Architects, etc. Your participation is absolutely essential. Send your ideas, recommendations and proposed articles to lawrence.p.delaney@usace.army.mil or contact Denise Massihi (CEMP-EC) at 202-761-1380 or Charles Pearre (CECW-EP) at 202-761-4531 for additional information.

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Value Engineering

CUSTOMER PRESENTS CORPS SUCCESS TO ASCE

The City/Parish of East Baton Rouge, Louisiana, Department of Public Works presented the recent Corps Section 22 Value Engineering success to the American Society of Civil Engineers on September 16, 1999. To avoid paying EPA fines, the City/Parish, was facing the reallocation of all funds, previously committed to highways, plus an increase in users fees to implement their Sanitary Sewer Overflow Corrective Action Plan. The latest information indicates that over $170 million in proposals will be accepted from the CEMVD/New Orleans District VE Studies, thus allowing most of the highway funds to be utilized for their original purpose. New Orleans used OVEST and an A/E firm to ensure a solid product. The District presented the VE Recommendations to City Council on September 14, 1999, and the City/Parish is making plans to utilize Corps VE on future projects.

POC: MICHAEL HOLT, CEMP-EV, 202-761-8738

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Meetings and Conferences

ASCE CONVENTION

This year's American Society of Civil Engineers convention is scheduled for 17-20 October 1999, in Charlotte. Attending these types of events is an excellent way to keep up with the latest developments in your profession and bringing fresh ideas into our organization. Attendance to the ASCE convention is highly encouraged. You will find additional information at http:/www.asce.org/conference/99conv/index.html.

POC: RAY NAVIDI, CEMP-ET, 202-761-0223

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Partnering

REGIONAL AND LOCAL PARTNERING WITH ACEC

Recently, we conducted a survey of the current partnering relationships between Corps MSC's and Districts and the state-level organizations of the American Consulting Engineers Council (ACEC). We were very pleased to find that half of the MSC's (LRD, SAD, SPD and SWD) had very active regional partnerships with ACEC involving all of their subordinate districts and the corresponding state ACEC organizations. South Atlantic Division also concurrently meets with the state chapters of the American

Institute of Architects in their area. In addition to the four MSC-wide partnerships, eight districts in the other MSC's have partnering agreements with their ACEC state organizations. Hence, totally, four MSC's and 28 districts have active partnering relationships with their respective ACEC organizations.

The MSC's and districts typically meet quarterly with their ACEC state organizations. Common agenda items include A-E contracting practices, design-build, USACE program trends, project partnering, and technical criteria and standards. The ACEC national organization is attempting to link together the partnering activities of their state organizations to share common issues. Also, for several years, we have been distributing the minutes of our national partnering meetings with ACEC in order to more closely align the various MSC and district partnering activities.

We encourage the MSC's and districts that do not have a partnering relationship with their state ACEC organizations to consider doing so. We can refer you to points of contact at the MSC's and districts, which have successful regional and local partnerships with ACEC. We feel our partnership with ACEC, as well as with other professional organizations, has many benefits, including:

- Obtaining industry feedback on current and proposed USACE business practices to ensure that our practices are fair and effective.
- Sharing information on industry and Government practices and trends.
- Resolving problems early and systemically.
- Sharing information on impacts of recent and proposed Federal legislation and regulations.
- Promoting the US design and construction industry.

Happy partnering!

POC: DON EVICK, CEMP-EC, 202-761-1053

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Open Discussion and Comments

USE OF GEOLOGISTS ON DAM SAFETY INSPECTIONS

Following is an exchange of information on the use of geologists on dam safety inspections. The exchange started with a question that was received from an agency of the Government of Mexico.

From Ulrich Hungsberg (CNA): "Hi Tommy, How are you today?

I am writing you because here at CNA (Comisión de Nacional de Agua) we are trying to prepare a manual of geological aspects related to Dam Safety. I looked at the pages of the USBR, but found only their material for their courses which have their cost. Our idea is to prepare something that we can give an unexperienced civil engineer, who is supposed to make the initial dam safety inspections so that he would be able to discern if he should call in a geologist related with dam safety.

Could you give me a hint where I could get some material on that subject and how? I would appreciate if you could help.

Best regards, Ulrich."

From Tommy Schmidt (CESWD): "Mike - below is a note from Ulrich Hungsberg. He works for the Mexico National Water Commission in Mexico City. He is responsible for dam safety and other things.

He is asking for a source of information that would guide young, inexperienced engineers to know when they should call in a geologist to assist in an inspection. Do you know of a source (electronic source would be best)?

Regards, Tommy."

From Mike Klosterman (CECW-EG): "Tommy,

I know of no published guidelines that answer this question. Most Corps EM's use such phrases as "team approach", etc. but don't answer the question of when does the engineered soil problem of the engineer become the natural foundation problem of the geologist. The bible I most refer to is Roy Hunt's, Geotechnical Engineering Investigations Manual, 1984, McGraw-Hill. I believe it is still in print and the Introduction has some general philosophy that might prove helpful. IT SHOULD NEVER BE USED BY AN ENGINEER IN LIEU OF GETTING ADVICE FROM A GEOLOGIST OR VICE VERSA!

If one is a young inexperienced engineer, a geologist should be called in at the first suspicion that the problem may exist in the natural, undisturbed foundation (soil or rock). Obviously when an experienced engineer has accumulated a body of knowledge about natural foundation conditions he is in a better position to make a decision on when a geologist should be consulted.

When I was a young technical professional, I would cover my butt by informally asking a geotech, materials, or other engineer, or someone at a local university whenever I didn't know how to proceed technically on a problem that crossed over from engineering geology to civil engineering. That way my boss never knew how ignorant I really was. I guess he thought I'd come up with all those brilliant ideas on my own.

-Mike"

From Tommy Schmidt (CESWD): "Ulrich - below is a short response from Mike Klosterman, Chief Geologist with the Corps of Engineers in Washington, D.C. His response pretty well backs up what I told you yesterday in the email – the multi-discipline team approach has always been the Corps' approach to dam inspections. On most dams, we probably don't use a geologist on the inspections except for the first, most comprehensive one. After that, on subsequent periodic inspections, they may not be involved because a Geotechnical engineer is usually used, along with structural and mechanical. But, like I said yesterday, if the project has potential problems with seismically induced loads, or other stability or f foundation seepage/leakage problems, we should get a geologists to assist in interpreting the foundation conditions.

Generally though, I would discourage you from putting a young, inexperienced engineer in charge of inspections anyway. Inspections and evaluations of dams, especially high hazard dams, should be performed by an experienced, multi-discipline team of engineers and other professionals commensurate with the complexity of the project features. This may or may not include a geologist. When in doubt though, get one involved. The ER1110-2-100 that I mailed to you yesterday pretty well

addresses that subject. And, as Mike points out below, most all of our Engineering Manuals (EM's) address the subject from a team approach, but in all cases they require experienced individuals on the team. Young, inexperienced individuals should accompany the team for training purposes.

You and I both know that 'management' will try to use less qualified folks when they can to cut costs, but we should never condone it. I hope this helps with your effort. If you need more discussion, holler at me. Have a good weekend.

Regards, Tommy"

From Mike Klosterman (CECW-EG): "My God, yes! The best use we can put experienced engineers & geologists to is performing dam safety inspections. Unless you've built several dams or performed major dam rehab, you couldn't tell a seep from a sheep without additional testing.

In MVD we always had a geologist & soils engineer on all dam safety inspections. From my observations, the geologist was generally better at recognizing problems; the soils engineer was better at understanding the implications of the problem. In all cases - as you well know - it takes a while to get the feel for each dam, even if you were in on its construction.

-Mike"

From Tommy Schmidt (CESWD): "FYI, below are some email interactions between an engineer in the Mexico National Water Commission in Mexico City (Ulrich Hungsberg), Mike Klosterman in DC, and myself on the subject of when you should get a geologist involved in Periodic Inspections of dams. You might make more sense of it by reading the bottom message first and then working back up.

You are invited to share this subject around and see if anyone knows of some written guidance on the subject (or if someone might have strong opinions). I would appreciate any input."

From William Allenton (FERC): "Tommy – Thanks for sharing this with me.

I think you and Mike Klosterman have summarized the appropriate response. You need experienced engineers performing critical dam safety inspections. If you get caught using less experienced engineers than you need to call in a geologist at the first sign of distress in foundation or unusual seepage problem. But you have to keep mind the old adage that the more and more knowledge you gain the more ignorant you realize you are. Thus a less experienced engineer may not realize there is a potential dam safety problem and may not ask for a geologist help when one is really needed."

This exchange of messages is being included in the E&C News to stimulate discussion.

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(Editors' note: If you want to share your thoughts with our readers regarding the above send an email to the E&C News editors (charles.pearre@usace.army.mil or denise.massihi@usace.army.mil). We'll publish a synopsis of your comments next time).

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Editors' Notes

SUBSCRIBE TO ECNEWS

With this issue of the Engineering and Construction News we have established a subscription list on the Corps List Server. The name of the list is LS-ECNEWS. The purpose of the list is to distribute the Civil Works and Military Programs Engineering and Construction community newsletter, *Engineering and Construction News*.

All the names in address list for the June issue of the news were used to create the subscription list. You can subscribe or unsubscribe to LS-ECNEWS by sending an e-mail message to majordomo@usace.army.mil with no subject line and only a single line of text in the message body. That single line of text should have the following format: **subscribe ls-ecnews** or **unsubscribe ls-ecnews**. The List Server system will automatically pick up your originating e-mail address from the message and add it to or delete it from the distribution list.

If you have any questions about the list server, see the List Server E-Mail Delivery System web page at http://eml01.usace.army.mil/other/listserv.html. Or you may contact either Denise Massihi or Charles Pearre if you have additional questions on the subscription list.

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INTERNET ADDRESS FOR ECNEWS

The Internet address for the current issue of the Engineering and Construction News is http://www.usace.army.mil/inet/functions/cw/cecwe/notes/current.pdf each month. The issue will generally be posted one to two days after the News is initially distributed.

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